

# Computer Information Systems II (Advanced)

## **Demonstrating Workplace Readiness Skills: Personal Qualities and People Skills**

1. Demonstrate positive work ethic.
2. Demonstrate integrity.
3. Demonstrate teamwork skills.
4. Demonstrate self-representation skills.
5. Demonstrate diversity awareness.
6. Demonstrate conflict-resolution skills.
7. Demonstrate creativity and resourcefulness.

## **Demonstrating Workplace Readiness Skills: Professional Knowledge and Skills**

8. Demonstrate effective speaking and listening skills.
9. Demonstrate effective reading and writing skills.
10. Demonstrate critical-thinking and problem-solving skills.
11. Demonstrate healthy behaviors and safety skills.
12. Demonstrate an understanding of workplace organizations, systems, and climates.
13. Demonstrate lifelong-learning skills.
14. Demonstrate job-acquisition and advancement skills.
15. Demonstrate time-, task-, and resource-management skills.
16. Demonstrate job-specific mathematics skills.
17. Demonstrate customer-service skills.

## **Demonstrating Workplace Readiness Skills: Technology Knowledge and Skills**

18. Demonstrate proficiency with technologies common to a specific occupation.
19. Demonstrate information technology skills.
20. Demonstrate an understanding of Internet use and security issues.
21. Demonstrate telecommunications skills.

## **Examining All Aspects of an Industry**

22. Examine aspects of planning within an industry/organization.
23. Examine aspects of management within an industry/organization.
24. Examine aspects of financial responsibility within an industry/organization.
25. Examine technical and production skills required of workers within an industry/organization.
26. Examine principles of technology that underlie an industry/organization.
27. Examine labor issues related to an industry/organization.
28. Examine community issues related to an industry/organization.
29. Examine health, safety, and environmental issues related to an industry/organization.

## **Addressing Elements of Student Life**

30. Identify the purposes and goals of the student organization.
31. Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.
32. Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.
33. Identify Internet safety issues and procedures for complying with acceptable use standards.

## **Using Advanced Word Processing Functions**

34. Compare advanced features of a word processing program to determine the best tools to use for a given task.
35. Create documents using advanced merge functions.
36. Produce documents incorporating tables, templates, autocorrect, styles, smart art graphics, and other advanced features.
37. Create a professional document (e.g., brochure, annual report, newsletter, catalog) demonstrating established principles of design in desktop publishing.
38. Import text and graphics from other sources (e.g., Internet, CD, DVD, scanner, digital camera, and other files).
39. Integrate a variety of software applications into a word processing document.
40. Create an online form with a word processing program.

### **Using Advanced Spreadsheet Functions**

41. Compare features and functions of various spreadsheet programs to determine the best software for an individual's or organization's needs.
42. Create a spreadsheet using advanced formatting features and graphics.
43. Use advanced formulas and functions (e.g., @pmt, @pv, @vlookup).
44. Use advanced tools (e.g., macros, scenarios, auditing, pivot table reports, object linking and embedding).
45. Create and reformat complex graphs.
46. Analyze, interpret, and present data.
47. Sort and filter spreadsheet data.
48. Import and export data to and from a spreadsheet.
49. Create templates.
50. Organize a large workbook with multiple worksheets.
51. Apply linear programming to optimize spreadsheet results.

### **Using Advanced Database Functions**

52. Evaluate features of various database programs to determine the best software for an individual's or organization's needs.
53. Plan, design, and create a database file with advanced features.
54. Generate customized reports and forms, using advanced formatting features and graphics.
55. Create and conduct advanced queries to access information.
56. Import and export data to and from a database.

### **Enhancing Multimedia Presentations**

57. Research and organize information to build a multimedia presentation with advanced features.
58. Plan and build multimedia presentations, using advanced features.
59. Utilize templates and master slides in the design of presentations.
60. Enhance multimedia presentation layout, according to principles of effective design.
61. Enhance a multimedia presentation with advanced features (e.g., color, transitions, animations, timing, backgrounds, graphics, charts, graphs).
62. Incorporate visual elements (e.g., scanned images, digital photography, video images, streaming, downloadable images from the Internet).
63. Incorporate audio elements (e.g. music and voice recordings, digital audio [.wav] files, streaming, MIDI interface files).
64. Integrate a variety of software applications into a multimedia presentation.
65. Proofread and edit multimedia presentations.

66. Create handouts and other visuals (e.g., transparencies, speaker's notes, outline, CD/DVD, memory key).
67. Deliver a multimedia presentation, according to the principles of effective communication.
68. Critique the clarity and effectiveness of advanced multimedia presentations.

### **Producing Desktop Published Documents for Print and Electronic Distribution**

69. Gather or create documents and graphics for use in various advanced desktop publishing products, such as flyers, brochures, and newsletters.
70. Determine appropriate desktop publishing products based upon the purpose of the publication, intended audience, output format, and time and cost constraints.
71. Apply principles of design, layout, and typography.
72. Design a layout for ease of readability and attractiveness (e.g., white space, column position and spacing, page margins, graphic text placements).
73. Enhance appearance of document using desktop features (e.g., graphic boxes, lines, illustrations, images).
74. Create templates or master pages.
75. Create a variety of multi-page and multi-column documents in a format appropriate for electronic distribution.
76. Demonstrate use of keyboard shortcuts.
77. Incorporate original/imported text, graphics, tables, charts, and audio/visual elements from a variety of sources.
78. Convert a document to electronic format (e.g., PDF files, XPS format, professional layout).

### **Designing and Producing Web Pages**

79. Evaluate the various methods of Web page creation (e.g., integrated software packages, Web design software, Internet browsers, programming languages).
80. Research and organize information for a Web site.
81. Compare the features and functions associated with the Internet, intranets, and extranets.
82. Plan and create a Web site applying design features (e.g., ruled lines, lists, headings, backgrounds, frames, tables).
83. Apply Web page design features (e.g., ruled lines, lists, headings, background, frames, tables).
84. Create hypertext links to other pages or sites.
85. Proofread, edit, and test a Web site for functionality.
86. Critique a Web site according to accepted Web design principles.
87. Develop a plan for posting, updating, and maintaining a Web site.
88. Describe various methods of publicizing and promoting a new Web site.

### **Maintaining, Managing, and Troubleshooting Systems**

89. Evaluate workstations, equipment, software, and supplies for design, layout, and purchase.
90. Maintain and upgrade workstations, equipment, software, and supplies.
91. Analyze software problems to obtain assistance via electronic and hard-copy references and documentation.
92. Troubleshoot hardware problems (e.g., proper connections, scanner, printer, speakers, auxiliary drives).

93. Explore tools (e.g., defragmenter, file compression, scan disk, diagnostic) to manage the operating system.
94. Demonstrate (or explain) how to install software and customize defaults.
95. Backup/restore programs and data files.
96. Investigate advanced desktop configuration techniques (e.g., control panel).
97. Scan storage devices and equipment for viruses and spyware, and disinfect as needed.
98. Install peripherals (e.g., scanner, digital camera, fax machine, modem).
99. Comply with safety and ergonomic precautions associated with computer use.
100. Compare operating systems (e.g., Windows, Macintosh, Unix, Linux).
101. Investigate security issues related to Internet technology (e.g., virus, firewalls, spam, system backup, passwords, wireless, data encryption).

### **Executing Networking Activities**

102. Identify network types and topologies (e.g., LAN, WAN, bus, ring, star).
103. Connect components of a local area network.
104. Identify file structures on networks (e.g., folders, directories, subfolders).
105. Download software/files to a specific workstation.
106. Identify basic network protocols (e.g., TCP/IP, FTP, Voice over IP).
107. Explain the importance of network security (e.g., ethics, rights).
108. Troubleshoot network problems (e.g., understanding network diagnostic tools).

### **Implementing Programming Activities**

109. Enter, run, and debug a program.
110. Code an application program using arithmetic functions.
111. Code an application program using embedded data.
112. Improve appearance of printed reports.
113. Design interactive programs.
114. Write programs to summarize data.
115. Write programs to subtotal and group print.
116. Write modular programs.
117. Write programs using controlled loops.
118. Implement tables.
119. Code an application program using sort routine.
120. Code an application program to display graphic scene.
121. Explore the characteristics and uses of artificial intelligence and expert systems.

### **Exploring Legal and Ethical Issues**

122. Comply with copyright and patent laws pertaining to scanned images and documents, electronic clip art, recorded sounds, recorded and scanned photography, trademarks, and other elements adapted for use in desktop publishing, multimedia, and Web documents.
123. Analyze situations where scanned/digitized audiovisual elements, documents, and electronic graphs may be used legally but are ethically questionable.
124. Comply with policies regarding acceptable use of technology.
125. Investigate computer crime and privacy issues related to Internet technology.
126. Apply concepts of security, integrity, courtesy, and confidentiality related to information and communication systems and intellectual property.
127. Investigate the design of Web sites for accessibility and accommodation of special needs (i.e., Americans with Disabilities Act, multilingual).

### **Preparing for Industry Certification**

128. Describe the process and requirements for obtaining industry certifications related to the Advanced Computer Information Systems course.
129. Identify testing skills/strategies for a certification examination.
130. Demonstrate ability to successfully complete selected practice examinations (e.g., practice questions similar to those on certification exams).
131. Successfully complete an industry certification examination representative of skills learned in this course (e.g., MCAS, MOS, IC3, NOCTI).

### **Developing Employability Skills**

132. Explore domestic and international job opportunities (using the Internet, newspapers, and other sources).
133. Update résumé.
134. Add representative work samples to portfolio, including résumé format suitable for online posting.
135. Use electronic sources to research a company in preparation for a job interview.
136. Participate in a mock interview.
137. Compose an interview follow-up letter.
138. Identify criteria for evaluating self-performance.
139. Prepare a letter of resignation.
140. Explore career and college options for life-long learning.
141. Investigate new and emerging technological trends in the workplace (e.g., video/teleconferencing, workgroup computing, telecommuting, virtual office, voice recognition, electronic calendars and task lists).
142. Identify potential employment barriers for nontraditional groups and ways to overcome the barriers.